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MORBIDITY AND MORTALITY WEEKLY REPORT

- 709 Outbreak of Viral Gastroenteritis – Pennsylvania and Delaware
711 Update on Influenza Activity – Worldwide
713 Use of Workers' Compensation Claims for Surveillance of Work-Related Illness – New Hampshire, January 1986-March 1987
720 Status of the 1990 Objectives on Misuse of Alcohol and Drugs

*Epidemiologic Notes and Reports***Outbreak of Viral Gastroenteritis – Pennsylvania and Delaware**

Within 48 hours of the University of Pennsylvania-Cornell University football game in Philadelphia on September 19, 1987, 158 students with symptoms of gastrointestinal illness visited the university health service. Band members from both universities, Cornell football players, and spectators, including visiting students and university staff and faculty, had similar symptoms.

Ninety-nine percent of the 158 students visiting the university health service reported nausea; 75% reported vomiting; 48%, diarrhea; 22%, headache; 17%, fever; 18%, chills; and 14%, myalgia. The mean incubation period was 36 hours; symptoms lasted 12 to 48 hours. Ninety-two percent of the students had purchased soda with ice from the stadium concessionaire.

None of the Pennsylvania football team members were affected until September 24 and 25, when 55 became ill. The Pennsylvania football team had used ice from a different source at the September 19 game. However, during practice on September 23, the team used ice supplied by the distributor that had provided the stadium concessionaire's ice on September 19.

On September 21, a physician notified the Delaware Department of Health and Social Services of another outbreak of gastroenteritis among 750 people who attended a museum fund-raiser in Wilmington, Delaware. Attendees were served food and iced drinks, most of which contained alcohol. The ice was traced to the same manufacturer that had supplied the concessionaire in Philadelphia.

Questionnaires were completed by University of Pennsylvania undergraduates, football players, and band members, and by participants at the Delaware fund-raiser to examine the relationship of food, drink, and ice consumption to the development of gastrointestinal illness. In each study, ice was significantly associated with illness. The attack rate for those consuming ice in the Pennsylvania outbreak was 62%, while 10% of those not consuming ice were ill (relative risk [RR] = 6.03; 95% confidence interval [CI], 4.66-7.50). In the Delaware outbreak, the attack rate was 61% for those consuming ice and 16% for those not consuming ice (RR = 3.65; 95% CI, 1.96-6.77).

The ice was traced to a manufacturer in southeastern Pennsylvania whose wells had been flooded by waters from Conestoga Creek following a torrential rainfall on September 8. Ice produced at this factory following the flood was sold to distributors serving Pennsylvania, Delaware, and New Jersey. Pennsylvania and Delaware health department laboratories found high concentrations of fecal coliforms in both the ice and the well water used to produce the ice. An increase in diarrheal illness was also

Gastroenteritis — Continued

noted among residents along Conestoga Creek who obtained their drinking water from private wells that were also flooded. No source of fecal contamination of the creek has been identified.

No bacterial pathogens were identified from any of the stool samples, but a 27-nm virus-like particle was identified in a sample from a University of Pennsylvania student. Serologic studies of several affected groups are pending.

At the request of the U.S. Food and Drug Administration, the manufacturer recalled ice produced after the flooding. Based on distribution records and the Pennsylvania attack rate, more than 5,000 people may have become ill from consumption of the 60-300 tons of ice produced in the week following the flood. Macaroni salad and gelatin prepared with ice from the manufacturer were also recalled. The manufacturer agreed to decontaminate its wells and machinery before resuming production.

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Editorial Note: Ice has rarely been implicated as a vehicle of infection. Its identification as the source in these outbreaks has raised several concerns. The high attack rates of diarrhea among people who ingested ice with alcoholic or carbonated beverages are striking because each of these beverages should have some disinfectant effect. Furthermore, since ice is not consistently controlled by any state or federal agency, jurisdiction for maintaining the quality of commercially produced ice or for recalling already distributed ice is unclear. Some of the containers of ice involved in the Pennsylvania and Delaware outbreaks did not carry labels identifying the manufacturer, and none were marked with the production date. Consequently, tracing the extent of the outbreak and determining which ice to recall was difficult.

This outbreak was characteristic of diarrheal illness caused by viruses other than rotaviruses (1). There were high rates of nausea, vomiting, and diarrhea; the incidence of fever was low; and incubation periods and lengths of illness were short. Stool samples contained no bacterial agents.

Norwalk agent has been identified as the causative agent in 42% of 74 past U.S. diarrhea outbreaks of nonbacterial origin, on the basis of a fourfold rise in antibody titer (2). Other viral agents identified in U.S. outbreaks include the Snow Mountain and Marin County agents (astrovirus-serotype 5). Viral agents associated with outbreaks in other countries, such as caliciviruses, other astroviruses, and non-group A rotaviruses, have not been known to cause outbreaks of diarrheal illness in the United States, perhaps because of current methods of specimen collection, handling, and processing.

Most stool specimens from field investigations are frozen before examination. The finding of a 27-nm virus-like particle in a freshly collected, refrigerated (+4°C) stool sample may support recent changes in thinking about collection and storage of such specimens. Although deep freezing (-70°C) maintains the viability of some viruses, it also causes a loss of definition of their structure (3). Examination of fresh, loose, large-volume, refrigerated specimens may be the key to identifying the causative agent in future investigations. Further laboratory studies are being conducted to characterize and identify the agent involved in these outbreaks.

Gastroenteritis — Continued

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Update on Influenza Activity — Worldwide

Since the end of last winter's influenza season in the Northern Hemisphere, low levels of activity of influenza A/Taiwan/1/86(H1N1)-like strains (the predominant strain last winter) have been reported in Asia and Oceania. Similar strains have been reported from outbreaks in South Africa (Table 1). An isolated infection with influenza A(H1N1) was confirmed in the United Kingdom. In the Americas, A/Taiwan/1/86-like viruses have been reported from Uruguay and Chile — the first reported spread of the 1986 A(H1N1) variant to South America following its circulation in North America.

Influenza B has been the most frequently isolated virus. In Oceania, localized outbreaks were reported in Australia and epidemic activity in New Zealand. In the Americas, influenza B was isolated from children in Guatemala during May, and localized influenza B activity was reported in Brazil during July and August. Influenza B infections were documented in the United States during summer and early fall. A child in Wisconsin became ill during June upon returning from the Philippines, where the infection was most likely acquired. Four cases were reported from Tucson, Arizona: one in July and three in October. In October, influenza B virus was also isolated from a 14-year-old in Hawaii.

TABLE 1. Influenza activity, by virus type — 1987 (through October)*

| Country | Virus Type | | |
|------------------|------------|----------------|---------------|
| | A(H1N1) | A(H3N2) | B |
| Asia: | | | |
| Hong Kong | + Jul | + Mar,Jun | ++ Feb,Mar |
| China (PRC) | + Mar | ++ Apr,May | + Mar |
| Singapore | + Jan-Jun | + Jun | + Jan-Jun |
| Taiwan | — | ++ Jun,Jul | ++ May,Jun |
| Thailand | — | — | ++ Mar-May |
| Korea | — | — | + Apr |
| Indonesia | — | — | + Apr,May |
| India | + Apr | — | + Jul |
| Japan | — | — | + May |
| Africa: | | | |
| South Africa | ++ | — | — |
| Europe: | | | |
| United Kingdom | + Aug | — | — |
| Oceania: | | | |
| Australia | + | + Jul | ++ Mar |
| New Zealand | — | + Jul | +++ Jun,Jul |
| Guam | — | + Jul | — |
| Central America: | | | |
| Guatemala | + Jan | — | + Feb,May |
| South America: | | | |
| Brazil | + Feb | ++ Mar,May,Jun | ++ Jul,Aug |
| Uruguay | + Jun | — | — |
| Chile | + Jul,Aug | — | — |
| North America: | | | |
| United States | — | + Aug | + Jun,Jul,Oct |

*Excludes influenza activity in the Northern Hemisphere during the traditional influenza season. Key: + designates sporadic activity; ++ designates localized outbreak; +++ designates epidemic activity.

Influenza -- Continued

Influenza A(H3N2) occurred sporadically in Australia and New Zealand, but no major outbreaks were reported. However, from April through September, an increasing number of Asian and Pacific countries including Hong Kong, Singapore, the People's Republic of China, Guam, and Taiwan reported A(H3N2) isolates. Brazil reported a localized outbreak of influenza A(H3N2) in Rio de Janeiro during May and June. In the United States, one patient, a Vermont resident, has had a serologically confirmed case of influenza A(H3N2). The patient was among a group of tourists who developed respiratory illness while on a ship off Alaska in late August (1).

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Editorial Note: International surveillance data confirm the continuing circulation of three antigenically distinct influenza viruses: type A(H3N2), type A(H1N1), and type B. Influenza A(H1N1) and A(H3N2) viruses are antigenically related through internal proteins, rather than through the surface glycoproteins, hemagglutinin (H) and neuraminidase (N). Whereas antibodies that recognize the outer proteins (particularly the hemagglutinin) can neutralize virus infectivity or reduce spread of virus, antibodies to the internal, cross-reactive proteins do not appear to prevent infection. However, immunity to these shared proteins may be important in terminating infection through the actions of cytotoxic T-cells and might contribute to early recovery (4). H3-containing viruses were responsible for the Hong Kong influenza pandemic of 1968, which spread among all age groups, and have evolved antigenic variants responsible for epidemics with associated excess mortality in the United States during seven seasons since then.

H1-containing viruses reappeared in 1977 after a 20-year absence and caused epidemics with low or no mortality during the 1978-79, 1983-84, and 1986-87 influenza seasons. Many persons born before about 1955 are sufficiently immune to H1N1 viruses evolving since 1977 that they are resistant to infection or have mild illnesses. Consequently, in recent years, early recognition of H1N1 virus has always occurred in children or young adults. However, the first recognized A(H3N2) infections in the United States usually involve adults, as they apparently did this year with the tourists in Alaska (1).

Influenza B viruses, which are antigenically distinct from type A viruses, were first recognized in the 1930s. Although variation occurs in the hemagglutinin of type B viruses, the strains represent a continuum, with no distinct subtypes. Despite this, from the mid-1930s until 1970, nine probable epidemics of influenza B (2) were associated with excess mortality. However, from 1970 to 1979, when influenza B epidemics occurred several times, infections appeared to be mainly confined to children or young adults, and no excess mortality occurred. With the appearance of the B/Singapore/79 strain in 1979, the pattern of excess mortality reemerged, and many B virus infections and associated deaths occurred among the elderly (3). Influenza B viruses were also responsible for major outbreaks or epidemics in the United States in 1983-84 (the B/USSR/83 variant) and in 1985-86 (the B/Ann Arbor/86 variant).

Influenza - Continued

Because the degree of spread of current influenza strains is unpredictable and because it is likely from current observations that both type A(H3N2) and type B viruses will circulate this winter, high-risk persons and those providing their care at home or in medical facilities should be encouraged, in advance of any outbreaks in their area, to receive the trivalent vaccine licensed for this year. The available antiviral agent, amantadine, is effective against all known subtypes of influenza A viruses but is ineffective against influenza B viruses. Laboratories providing support for physicians with patients requiring urgent care (e.g., hospitalized patients) should at this time be evaluating their capabilities to perform rapid viral diagnosis so as to differentiate between influenza A and B infections. Information about reagents and procedures for such diagnosis may be obtained from state health department laboratories or from CDC.

References:

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*Current Trends***Use of Workers' Compensations Claims for Surveillance of Work-Related Illness - New Hampshire, January 1986-March 1987**

As part of a surveillance program for occupationally related health events, the New Hampshire Division of Public Health Services (NHDPHS) routinely reviews case reports submitted by health-care providers and identifies work-related sentinel health events from death certificates (1,2). Despite the use of multiple data sources, however, surveillance of work-related disease remains incomplete (3). In a further effort to improve surveillance, the NHDPHS recently completed an epidemiologic analysis of workers' compensation claims filed in the state for the 15-month period January 1986-March 1987.

Workers' compensation claims were provided by the New Hampshire Department of Labor. Information on the sex, age, occupation, and place and town of employment of the claimant; the date of the claim; and the diagnosis were abstracted manually from all claims for disease or illness. Data were analyzed to determine the demographic characteristics of claimants and to determine the distribution of work-related illness within particular industries. The proportions of diagnoses in each industrial category were compared with the proportions observed for all claims. Statistical testing was performed using a chi-square distribution with 1 degree of freedom.

Nearly 78,000 claims were filed during the study period. Of these, 76,856 (98.6%) involved work-related injuries, and 1,103 (1.4%) involved illnesses or diseases. Fifty-two percent of illness and disease claims were filed by males. Claimants ranged in age from 16 to 76 years, with a mean of 35 years. Three hundred eighty-six (35%) of reported conditions were attributable to the inhalation of gases, fumes, or vapors; 288 (26%) were attributable to skin disorders; 226 (20%), to carpal tunnel syndrome or other repetitive trauma disorders; and 109 (10%), to exposure to an infectious agent.

Work-Related Illness -- Continued

The latter claims were filed primarily by health-care workers, firefighters, and police officers, who alleged exposure to hepatitis (38%), tuberculosis (19%), pertussis (17%), chickenpox (7%), meningitis (6%), and AIDS (4%).

The distribution of diagnoses by industrial category was also analyzed. Notable findings included elevated proportions of claims due to carpal tunnel syndrome among employees working with rubber (relative risk [RR] = 2.33) and employees in retail sales (RR = 1.93); dermatitis among workers in the metals and electronics industries (RR = 1.99 and 1.42, respectively); and chemical burns resulting from the use of caustic cleaning substances by food and restaurant workers (RR = 6.80). Fewer than 1% (7) of illness claims involved chronic diseases: five cases of asbestosis, one of mesothelioma, and one of pancreatic cancer.

Comparison of the distribution of claims filed during the study period with that observed in an earlier review of 1976 claims revealed a change in the pattern of illnesses (4). The proportion of claims for respiratory diseases and for carpal tunnel syndrome and repetitive trauma disorders had increased markedly; it had decreased

(Continued on page 719)

TABLE I. Summary -- cases of specified notifiable diseases, United States

| Disease | 43rd Week Ending | | | Cumulative, 43rd Week Ending | | |
|---|------------------|---------------|------------------|------------------------------|---------------|------------------|
| | Oct. 31, 1987 | Oct. 25, 1986 | Median 1982-1986 | Oct. 31, 1987 | Oct. 25, 1986 | Median 1982-1986 |
| Acquired Immunodeficiency Syndrome (AIDS) | 255 | 304 | N | 15,626 | 10,903 | N |
| Aseptic meningitis | 223 | 399 | 307 | 9,552 | 6,853 | 8,490 |
| Encephalitis: Primary (arthropod-borne & unspc) | 16 | 36 | 41 | 1,074 | 1,011 | 1,081 |
| Post-infectious | - | 1 | 1 | 67 | 91 | 81 |
| Gonorrhea: Civilian | 12,920 | 19,072 | 18,575 | 637,539 | 734,674 | 735,580 |
| Military | 272 | 400 | 801 | 12,290 | 13,933 | 17,837 |
| Hepatitis: Type A | 511 | 600 | 569 | 20,230 | 18,748 | 18,642 |
| Type B | 460 | 608 | 543 | 20,930 | 21,419 | 21,296 |
| Non A, Non B | 51 | 83 | N | 2,446 | 2,940 | N |
| Unspecified | 76 | 88 | 126 | 2,596 | 3,652 | 4,748 |
| Legionellosis | 12 | 35 | N | 714 | 695 | N |
| Leprosy | 3 | 3 | 3 | 173 | 211 | 200 |
| Malaria | 25 | 38 | 18 | 728 | 963 | 866 |
| Measles: Total* | 20 | 60 | 41 | 3,498 | 5,891 | 2,426 |
| Indigenous | 19 | 55 | N | 3,082 | 5,392 | N |
| Imported | 1 | 5 | N | 416 | 299 | N |
| Meningococcal infections: Total | 51 | 37 | 44 | 2,379 | 2,076 | 2,257 |
| Civilian | 51 | 37 | 44 | 2,379 | 2,074 | 2,249 |
| Military | - | - | - | 1 | 2 | 6 |
| Mumps | 112 | 188 | 52 | 11,054 | 4,252 | 2,743 |
| Pertussis | 63 | 278 | 138 | 2,077 | 3,429 | 2,007 |
| Rubella (German measles) | 2 | 5 | 12 | 314 | 468 | 654 |
| Syphilis (Primary & Secondary): Civilian | 623 | 736 | 675 | 29,178 | 21,969 | 23,063 |
| Military | 1 | 6 | 132 | 140 | 251 | 251 |
| Toxic Shock syndrome | 3 | 8 | N | 272 | 294 | N |
| Tuberculosis | 434 | 473 | 473 | 17,448 | 18,063 | 18,063 |
| Tularemia | 2 | 3 | 6 | 171 | 129 | 226 |
| Typhoid Fever | 3 | 5 | 5 | 266 | 266 | 317 |
| Typhus fever, tick-borne (RMSF) | 5 | 18 | 12 | 564 | 697 | 777 |
| Rabies, animal | 52 | 85 | 115 | 3,867 | 4,643 | 4,643 |

TABLE II. Notifiable diseases of low frequency, United States

| | Cum. 1987 | | Cum. 1987 |
|--------------------------------------|-----------|--|-----------|
| Anthrax | 1 | Leptospirosis (Ohio 1; Ky. 1; Hawaii 8) | 32 |
| Botulism: Foodborne | 10 | Plague | 9 |
| Infant (Utah 1; Wash. 1) | 44 | Polioencephalitis, Paralytic | - |
| Other (Calif. 1) | 1 | Psittacosis (Col. 4; Wash. 1) | 73 |
| Brucellosis (Fla. 1; Ark. 1; Tex. 1) | 96 | Rabies, human | - |
| Cholera | 4 | Tetanus | 36 |
| Congenital rubella syndrome | 5 | Trichinosis | 33 |
| Congenital Syphilis, <1 year | 21 | Typhus fever, flea-borne (endemic, murine) | 32 |
| Diphtheria | 3 | | |

*One of the 20 reported cases for this week was imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending October 31, 1987 and October 25, 1986 (43rd Week)

| Reporting Area | AIDS | Aseptic Meningitis | Encephalitis | | Gonorrhea (Civilian) | | Hepatitis (Viral), by type | | | | Legionellosis | Leprosy |
|------------------|-----------|--------------------|--------------|-----------------|----------------------|-----------|----------------------------|------|-------|-------------|---------------|-----------|
| | | | Primary | Post-infectious | | | A | B | NA/NB | Unspecified | | |
| | Cum. 1987 | 1987 | Cum. 1987 | Cum. 1987 | Cum. 1987 | Cum. 1986 | 1987 | 1987 | 1987 | 1987 | 1987 | Cum. 1987 |
| UNITED STATES | 15,826 | 223 | 1,074 | 87 | 637,539 | 734,674 | 611 | 460 | 61 | 78 | 12 | 173 |
| NEW ENGLAND | 616 | 11 | 38 | 2 | 18,723 | 17,967 | 15 | 41 | 2 | 3 | - | 12 |
| Maine | 20 | - | 3 | - | 581 | 708 | 3 | 3 | - | - | - | - |
| N.H. | 23 | - | 2 | - | 337 | 471 | - | 3 | - | - | - | 2 |
| Vt. | 9 | 1 | 5 | - | 186 | 225 | 1 | 1 | - | - | - | - |
| Mass. | 355 | 5 | 17 | 1 | 6,920 | 7,293 | 4 | 26 | 1 | 3 | - | 9 |
| R.I. | 47 | 4 | 3 | 1 | 1,790 | 1,504 | 1 | - | - | - | - | - |
| Conn. | 162 | 1 | 8 | - | 8,908 | 7,786 | 6 | 8 | 1 | - | - | 1 |
| MID. ATLANTIC | 4,504 | 44 | 125 | 7 | 97,028 | 125,089 | 39 | 61 | 6 | 2 | 1 | 19 |
| Upstate N.Y. | 549 | 26 | 48 | 3 | 13,862 | 15,138 | 18 | 36 | 5 | - | - | - |
| N.Y. City | 2,591 | 4 | 10 | - | 80,271 | 72,315 | 15 | 36 | 1 | 2 | 1 | 19 |
| N.J. | 914 | - | 8 | - | 13,457 | 15,926 | - | - | - | - | - | - |
| Pa. | 450 | 14 | 61 | 4 | 18,436 | 21,692 | 6 | - | - | - | - | - |
| E.N. CENTRAL | 989 | 48 | 310 | 12 | 97,486 | 99,982 | 40 | 28 | 4 | 8 | 3 | 8 |
| Ohio | 189 | 16 | 139 | 5 | 21,934 | 24,789 | 5 | 6 | 1 | 1 | 2 | 3 |
| Ind. | 88 | 18 | 44 | - | 7,486 | 10,344 | 5 | 8 | 1 | 3 | - | - |
| Ill. | 474 | - | 25 | 7 | 29,161 | 23,733 | 15 | 3 | 2 | 2 | - | 1 |
| Mich. | 146 | 16 | 69 | - | 30,930 | 30,664 | 15 | 14 | - | 2 | 1 | 3 |
| Wis. | 82 | - | 34 | - | 7,986 | 10,452 | - | - | - | - | - | 1 |
| W.N. CENTRAL | 340 | 7 | 70 | - | 26,054 | 31,322 | 29 | 26 | 1 | 1 | 2 | - |
| Minn. | 80 | - | 40 | - | 3,934 | 4,496 | 5 | 3 | - | - | - | - |
| Iowa | 24 | 1 | 12 | - | 2,513 | 3,174 | 3 | 3 | - | 1 | - | - |
| Mo. | 176 | - | - | - | 13,865 | 16,793 | 9 | 13 | 1 | - | 2 | - |
| N. Dak. | 2 | - | 1 | - | 232 | 274 | - | - | - | - | - | - |
| S. Dak. | 2 | 1 | - | - | 518 | 664 | - | 2 | - | - | - | - |
| Nebr. | 18 | - | 10 | - | 1,644 | 2,370 | 1 | 1 | - | - | - | - |
| Kans. | 38 | 5 | 7 | - | 3,348 | 4,549 | 11 | 4 | - | - | - | - |
| S. ATLANTIC | 2,788 | 27 | 148 | 30 | 188,247 | 180,340 | 44 | 95 | 3 | 25 | 2 | 5 |
| Del. | 20 | 2 | 4 | 1 | 2,846 | 3,184 | - | 2 | - | - | - | - |
| Md. | 353 | 5 | 18 | 5 | 19,096 | 22,291 | 7 | 14 | - | 1 | - | 2 |
| D.C. | 380 | 3 | - | - | 11,300 | 13,990 | 2 | - | - | - | - | - |
| Va. | 181 | 2 | 33 | 2 | 12,460 | 16,748 | 8 | 1 | 1 | 22 | - | - |
| W. Va. | 20 | - | 53 | - | 1,211 | 1,864 | - | - | - | - | - | - |
| N.C. | 141 | - | 24 | - | 24,694 | 29,403 | 1 | 12 | - | 1 | - | - |
| S.C. | 66 | 1 | 1 | - | 13,315 | 16,398 | - | 12 | - | - | - | 1 |
| Ge. | 392 | 4 | 1 | - | 30,087 | 31,607 | 6 | 27 | - | - | 1 | - |
| Fla. | 1,215 | 10 | 14 | 22 | 63,229 | 66,968 | 19 | 27 | 2 | 1 | 1 | 2 |
| E.S. CENTRAL | 214 | 13 | 54 | 7 | 48,643 | 58,988 | 11 | 24 | 4 | 1 | - | - |
| Ky. | 36 | 4 | 26 | 1 | 4,908 | 6,488 | 6 | 4 | 2 | 1 | - | - |
| Tenn. | 33 | 1 | 12 | - | 17,015 | 22,399 | 3 | 13 | - | - | - | - |
| Ala. | 124 | 7 | 18 | 1 | 15,444 | 17,291 | 1 | 6 | 2 | - | - | - |
| Miss. | 21 | 1 | - | 6 | 11,276 | 12,806 | 1 | 1 | - | - | - | - |
| W.S. CENTRAL | 1,549 | 21 | 128 | 4 | 72,831 | 86,474 | 58 | 47 | 5 | 11 | 1 | 4 |
| Ark. | 36 | - | 2 | 2 | 8,136 | 8,071 | 11 | 1 | 1 | - | - | - |
| La. | 270 | 2 | 20 | - | 12,612 | 14,821 | - | 3 | - | - | 1 | - |
| Okla. | 86 | 2 | 22 | 1 | 7,887 | 9,820 | 6 | 4 | 1 | 1 | - | - |
| Tex. | 1,157 | 17 | 84 | 1 | 44,296 | 52,662 | 41 | 39 | 3 | 10 | - | 4 |
| MOUNTAIN | 463 | 9 | 67 | 4 | 16,807 | 21,624 | 78 | 39 | 8 | 2 | 1 | 2 |
| Mont. | 3 | - | 1 | - | 472 | 586 | 2 | 1 | - | - | - | - |
| Idaho | 9 | - | - | - | 602 | 740 | 14 | 5 | - | - | - | 1 |
| Wyo. | 3 | - | 1 | - | 362 | 456 | 1 | - | - | - | - | - |
| Colo. | 192 | 3 | 38 | - | 3,800 | 5,572 | 3 | 4 | 4 | - | - | - |
| N. Mex. | 33 | 1 | 5 | - | 1,857 | 2,273 | 8 | 9 | - | - | - | - |
| Ariz. | 138 | 4 | 17 | 1 | 5,675 | 6,978 | 48 | 13 | 3 | 1 | 1 | - |
| Utah | 30 | 1 | 1 | 3 | 519 | 910 | 1 | 1 | 1 | 1 | - | - |
| Nev. | 55 | - | 4 | - | 3,530 | 4,111 | 1 | 6 | - | - | - | 1 |
| PACIFIC | 4,183 | 43 | 134 | 21 | 90,711 | 103,910 | 197 | 99 | 18 | 23 | 2 | 123 |
| Wash. | 264 | - | 11 | 4 | 7,291 | 7,805 | 37 | 5 | - | 1 | 1 | 5 |
| Oreg. | 123 | - | - | - | 3,391 | 4,414 | 16 | 14 | - | - | - | - |
| Calif. | 3,721 | 42 | 118 | 17 | 77,674 | 96,376 | 144 | 77 | 18 | 22 | 1 | 94 |
| Alaska | 12 | - | 2 | - | 1,448 | 2,258 | - | 2 | - | - | - | 1 |
| Hawaii | 73 | - | 3 | - | 709 | 1,067 | - | 1 | - | - | - | 23 |
| Guam | 3 | - | - | - | 170 | 172 | - | - | - | - | - | - |
| P.R. | 94 | - | 1 | 1 | 1,661 | 2,912 | - | - | - | - | - | 5 |
| V.I. | - | - | - | - | 230 | 233 | - | - | - | - | - | - |
| Pac. Trust Terr. | - | - | - | - | 322 | 410 | - | - | - | - | - | 46 |
| Amer. Samoa | - | - | - | - | 67 | 44 | - | - | - | - | - | 1 |

N: Not notifiable

U: Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending October 31, 1987 and October 25, 1986 (43rd Week)

| Reporting Area | Malaria | Measles (Rubella) | | | | Meningo- coccal infections | Mumps | | Pertussis | | | Rubella | | | |
|------------------|---------|-------------------|-------|--------------|------|----------------------------------|-------|--------------|-----------|--------------|-------|--------------|------|------|--------------|
| | | Indigenous | | Imported* | | | Total | Cum. 1987 | 1987 | Cum. 1987 | 1987 | Cum. 1987 | 1986 | 1987 | Cum. 1986 |
| | | Cum. 1987 | 1987 | Cum. 1987 | 1987 | Cum. 1986 | | | | | | | | | |
| UNITED STATES | 739 | 19 | 3,082 | 1 | 418 | 5,891 | 2,379 | 112 | 11,054 | 83 | 2,077 | 3,429 | 2 | 314 | 468 |
| NEW ENGLAND | 49 | - | 118 | - | 162 | 102 | 208 | 8 | 56 | 11 | 148 | 144 | - | 1 | 9 |
| Maine | 2 | - | 3 | - | - | 13 | 18 | - | 1 | 1 | 28 | 2 | - | 1 | - |
| N.H. | 2 | - | 61 | - | 102 | 43 | 18 | - | 10 | 1 | 37 | 75 | - | - | 1 |
| Vt. | - | - | 11 | - | 15 | - | 18 | - | 6 | - | 4 | 3 | - | - | 1 |
| Mass. | 19 | - | 26 | - | 38 | 36 | 101 | 8 | 21 | 9 | 51 | 34 | - | - | 4 |
| R.I. | 8 | - | 1 | - | 1 | 2 | 14 | - | 2 | - | 3 | 6 | - | - | 2 |
| Conn. | 18 | - | 16 | - | 6 | 8 | 46 | - | 16 | - | 26 | 24 | - | - | 1 |
| MID. ATLANTIC | 101 | 2 | 524 | - | 57 | 1,719 | 303 | 7 | 221 | 3 | 237 | 180 | - | 11 | 35 |
| Upstate N.Y. | 33 | - | 26 | - | 14 | 100 | 105 | 4 | 87 | 2 | 137 | 116 | - | 9 | 27 |
| N.Y. City | 19 | - | 443 | - | 19 | 888 | 29 | - | 10 | - | 8 | 10 | - | 1 | 5 |
| N.J. | 24 | - | 32 | - | 7 | 909 | 66 | - | 58 | - | 14 | 17 | - | 1 | 3 |
| Pa. | 25 | 2 | 23 | - | 17 | 24 | 113 | 3 | 56 | 1 | 78 | 37 | - | - | - |
| E.N. CENTRAL | 48 | 13 | 341 | - | 25 | 1,088 | 357 | 37 | 6,158 | 12 | 211 | 351 | - | 36 | 75 |
| Ohio | 12 | - | 1 | - | 4 | 10 | 119 | 5 | 93 | 12 | 69 | 140 | - | - | 1 |
| Ind. | 4 | - | - | - | - | 38 | 37 | - | 923 | - | 16 | 26 | - | - | - |
| Ill. | 7 | 13 | 186 | - | 18 | 675 | 87 | 17 | 2,543 | - | 14 | 37 | - | 25 | 85 |
| Mich. | 17 | - | 29 | - | - | 59 | 91 | 15 | 964 | - | 46 | 35 | - | 9 | 8 |
| Wis. | 6 | - | 145 | - | 3 | 298 | 23 | - | 1,646 | - | 66 | 104 | - | 1 | 1 |
| W.H. CENTRAL | 25 | - | 208 | - | 22 | 339 | 96 | - | 1,366 | 1 | 128 | 1,072 | 1 | 2 | 13 |
| Minn. | 8 | - | 19 | - | 20 | 49 | 28 | - | 774 | - | 13 | 47 | - | - | 1 |
| Iowa | 5 | - | - | - | - | 134 | 3 | - | 412 | - | 55 | 19 | - | 1 | 1 |
| Mo. | 6 | - | 198 | - | 1 | 31 | 26 | - | 28 | - | 31 | 19 | - | - | 1 |
| N. Dak. | - | - | 1 | - | - | 25 | 1 | - | 6 | - | 11 | 5 | - | - | 1 |
| S. Dak. | - | - | - | - | - | - | 2 | - | 90 | - | 3 | 14 | - | - | - |
| Nebr. | 5 | - | - | - | - | 1 | 6 | - | 4 | - | 1 | 7 | - | - | - |
| Kans. | 1 | - | - | - | 1 | 99 | 30 | - | 52 | 1 | 14 | 961 | 1 | 1 | 9 |
| S. ATLANTIC | 124 | 2 | 147 | - | 12 | 746 | 387 | 8 | 273 | 4 | 296 | 722 | - | 18 | 8 |
| Del. | 1 | - | 32 | - | - | 1 | 5 | - | - | - | 5 | 227 | - | 2 | - |
| Md. | 28 | - | 6 | - | 2 | 35 | 39 | - | 26 | - | 17 | 163 | - | 3 | - |
| D.C. | 17 | - | - | - | 1 | 2 | 9 | - | 1 | - | - | - | - | 1 | - |
| Va. | 24 | - | 1 | - | - | 80 | 62 | - | 73 | - | 49 | 36 | - | 1 | - |
| W. Va. | 2 | - | - | - | - | 2 | 3 | - | 36 | - | 50 | 23 | - | - | - |
| N.C. | 11 | - | 2 | - | 3 | 4 | 46 | - | 25 | 1 | 117 | 66 | - | 1 | - |
| S.C. | 6 | - | 2 | - | - | 301 | 37 | 1 | 17 | - | - | 16 | - | - | - |
| Ge. | 4 | - | 8 | - | 1 | 93 | 78 | - | 40 | - | 23 | 129 | - | 2 | - |
| Fla. | 31 | 2 | 96 | - | 5 | 248 | 108 | 5 | 55 | 3 | 35 | 58 | - | 8 | 9 |
| E.S. CENTRAL | 13 | - | 3 | - | 3 | 67 | 124 | 1 | 1,263 | 1 | 42 | 49 | - | 3 | 4 |
| Ky. | 1 | - | - | - | - | 6 | 21 | - | 220 | - | 2 | 5 | - | 2 | 4 |
| Tenn. | 1 | - | - | - | - | 56 | 55 | 1 | 963 | - | 12 | 18 | - | 1 | - |
| Ala. | 5 | - | 1 | - | 3 | 2 | 40 | - | 60 | 1 | 22 | 25 | - | - | - |
| Miss. | 6 | - | 2 | - | - | 3 | 8 | N | N | - | 6 | 1 | - | - | - |
| W.S. CENTRAL | 50 | - | 444 | - | 4 | 685 | 188 | 31 | 1,110 | 2 | 261 | 230 | - | 11 | 63 |
| Ark. | 1 | - | - | - | - | 253 | 20 | - | 290 | - | 12 | 18 | - | 3 | - |
| La. | 1 | - | - | - | - | 4 | 22 | 26 | 563 | 2 | 49 | 13 | - | - | - |
| Okla. | 4 | - | 3 | - | 1 | 39 | 22 | N | N | - | 149 | 116 | - | 5 | - |
| Tex. | 44 | - | 441 | - | 3 | 358 | 104 | 5 | 256 | - | 51 | 83 | - | 4 | 63 |
| MOUNTAIN | 38 | - | 480 | - | 19 | 329 | 80 | 4 | 214 | 7 | 169 | 243 | - | 24 | 23 |
| Mont. | 1 | - | 127 | - | 1 | 8 | 4 | - | 6 | - | 6 | 14 | - | 8 | 2 |
| Idaho | 2 | - | - | - | - | 1 | 5 | - | 5 | 4 | 50 | 41 | - | 1 | - |
| Wyo. | 1 | - | - | - | 2 | - | - | - | - | - | 5 | 4 | - | 1 | 1 |
| Colo. | 9 | - | 5 | - | 4 | 10 | 27 | - | 28 | 2 | 58 | 65 | - | - | 1 |
| N. Mex. | 2 | - | 312 | - | 9 | 36 | 5 | N | N | 1 | 12 | 21 | - | - | - |
| Ariz. | 17 | - | 34 | - | 1 | 258 | 26 | 4 | 159 | - | 30 | 56 | - | 4 | 2 |
| Utah | 1 | - | - | - | 1 | 12 | 9 | - | 12 | - | 8 | 36 | - | 10 | 14 |
| Nev. | 3 | - | 2 | - | 1 | 2 | 4 | - | 4 | - | - | 4 | - | - | 3 |
| PACIFIC | 285 | 2 | 917 | 1 | 112 | 636 | 686 | 18 | 362 | 22 | 984 | 436 | 1 | 209 | 238 |
| Wash. | 24 | - | 34 | - | 10 | 167 | 72 | 3 | 50 | 6 | 87 | 142 | - | 2 | 17 |
| Oreg. | 5 | - | 11 | - | 80 | 12 | 26 | N | N | 5 | 70 | 12 | - | 2 | 4 |
| Calif. | 262 | 2 | 772 | - | 17 | 429 | 543 | 15 | 320 | 6 | 207 | 271 | - | 133 | 212 |
| Alaska | 3 | - | - | 1† | 1 | - | 5 | - | 7 | - | 5 | 2 | - | 2 | - |
| Hawaii | 1 | - | - | - | 4 | 28 | 10 | - | 15 | 5 | 215 | 14 | 1 | 70 | 5 |
| Guam | - | - | 2 | - | - | 5 | 5 | - | 5 | - | - | - | - | 1 | 4 |
| P.R. | 1 | - | 755 | - | - | 38 | 5 | - | 12 | - | 16 | 19 | - | 3 | 62 |
| V.I. | - | - | - | - | - | - | - | - | 13 | - | - | - | - | 1 | - |
| Pac. Trust Terr. | - | - | 1 | - | - | - | 1 | - | 5 | - | 1 | - | - | 1 | 2 |
| Amer. Samoa | - | - | 1 | - | - | 2 | - | - | 6 | - | - | - | - | - | 1 |

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable †International ‡Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending October 31, 1987 and October 25, 1986 (43rd Week)

| Reporting Area | Syphilis (Civilian) (Primary & Secondary) | | Tend- er-shoot Syndrome | Tuberculosis | | Tula- remia | Typhoid Fever | Typhus Fever (Tick-borne) (RMSF) | Rabies, Animal |
|------------------|--|--------------|-------------------------------|--------------|--------------|----------------|------------------|--|-------------------|
| | Cum. 1987 | Cum. 1986 | | Cum. 1987 | Cum. 1986 | | | | |
| UNITED STATES | 22,178 | 21,989 | 3 | 17,448 | 18,083 | 171 | 298 | 884 | 3,987 |
| NEW ENGLAND | 506 | 395 | - | 837 | 579 | 1 | 27 | 7 | 7 |
| Maine | 1 | 17 | - | 22 | 34 | - | 1 | - | 3 |
| N.H. | 3 | 10 | - | 18 | 28 | - | - | - | - |
| Vt. | 2 | 8 | - | 10 | 15 | - | 1 | - | - |
| Mass. | 238 | 210 | - | 300 | 317 | 1 | 15 | 4 | - |
| R.I. | 10 | 18 | - | 51 | 41 | - | 3 | - | 1 |
| Conn. | 252 | 131 | - | 136 | 144 | - | 7 | 3 | 3 |
| MID. ATLANTIC | 5,382 | 3,111 | - | 3,087 | 3,583 | 1 | 29 | 34 | 340 |
| Upstate N.Y. | 210 | 186 | - | 424 | 507 | 1 | 8 | 11 | 52 |
| N.Y. City | 3,987 | 1,785 | - | 1,481 | 1,884 | - | 3 | 5 | - |
| N.J. | 582 | 580 | - | 553 | 852 | - | 18 | 1 | 15 |
| Pa. | 823 | 848 | - | 639 | 580 | - | - | 7 | 273 |
| E.N. CENTRAL | 788 | 740 | - | 1,947 | 2,139 | 3 | 30 | 45 | 145 |
| Ohio | 80 | 103 | - | 357 | 383 | 1 | 9 | 29 | 14 |
| Ind. | 52 | 86 | - | 192 | 237 | - | 4 | 1 | 17 |
| Ill. | 401 | 383 | - | 843 | 906 | - | 9 | 7 | 44 |
| Mich. | 180 | 143 | - | 470 | 514 | - | 5 | 5 | 27 |
| Wis. | 55 | 36 | - | 85 | 99 | 2 | 3 | 3 | 43 |
| W.N. CENTRAL | 153 | 178 | - | 501 | 531 | 60 | 11 | 53 | 816 |
| Minn. | 15 | 29 | - | 98 | 124 | - | 5 | - | 201 |
| Iowa | 25 | 7 | - | 35 | 44 | 4 | 2 | 1 | 231 |
| Mo. | 72 | 83 | - | 272 | 281 | 38 | 3 | 18 | 52 |
| N. Dak. | - | 8 | - | 8 | 10 | 1 | - | - | 94 |
| S. Dak. | 11 | 9 | - | 23 | 23 | 9 | - | 1 | 184 |
| Nebr. | 10 | 12 | - | 23 | 13 | 2 | - | 3 | 16 |
| Kans. | 20 | 22 | - | 42 | 56 | 6 | 1 | 30 | 38 |
| S. ATLANTIC | 10,022 | 8,645 | 1 | 3,752 | 3,691 | 5 | 28 | 211 | 1,577 |
| Del. | 63 | 52 | - | 36 | 40 | 1 | - | 2 | - |
| Md. | 528 | 375 | - | 337 | 272 | - | 4 | 45 | 385 |
| D.C. | 328 | 250 | - | 135 | 128 | - | 2 | - | 40 |
| Va. | 289 | 288 | - | 372 | 293 | 2 | 6 | 19 | 298 |
| W. Va. | 10 | 19 | 1 | 84 | 104 | - | 1 | 7 | 58 |
| N.C. | 583 | 432 | - | 424 | 488 | 2 | 3 | 75 | 8 |
| S.C. | 633 | 581 | - | 380 | 463 | - | - | 33 | 49 |
| Ge. | 1,408 | 1,246 | - | 857 | 813 | - | - | 28 | 177 |
| Fla. | 6,204 | 3,382 | - | 1,317 | 1,200 | - | 12 | 2 | 82 |
| E.S. CENTRAL | 1,609 | 1,426 | - | 1,589 | 1,587 | 9 | 4 | 94 | 279 |
| Ky. | 19 | 80 | - | 347 | 380 | 3 | 2 | 11 | 134 |
| Tenn. | 839 | 504 | - | 468 | 464 | 1 | 1 | 58 | 75 |
| Ala. | 418 | 445 | - | 488 | 506 | 1 | 1 | 16 | 73 |
| Miss. | 533 | 427 | - | 288 | 287 | 3 | - | 10 | 7 |
| W.S. CENTRAL | 2,643 | 4,399 | 1 | 2,061 | 2,278 | 85 | 23 | 115 | 532 |
| Ark. | 214 | 215 | - | 250 | 318 | 33 | 2 | 12 | 111 |
| La. | 678 | 758 | - | 225 | 378 | 3 | - | - | 13 |
| Okla. | 138 | 118 | 1 | 184 | 210 | 25 | 5 | 88 | 31 |
| Tex. | 2,613 | 3,306 | - | 1,382 | 1,372 | 3 | 16 | 17 | 367 |
| MOUNTAIN | 565 | 489 | 1 | 422 | 444 | 16 | 15 | 12 | 324 |
| Mont. | 9 | 6 | - | 11 | 21 | 2 | - | 10 | 144 |
| Idaho | 5 | 13 | - | 17 | 20 | 1 | - | - | 9 |
| Wyo. | 3 | 2 | - | - | - | - | - | 1 | 67 |
| Colo. | 101 | 113 | - | 40 | 52 | 5 | - | - | 7 |
| N. Mex. | 50 | 54 | - | 78 | 83 | 1 | 10 | - | 3 |
| Ariz. | 264 | 204 | 1 | 223 | 208 | 3 | 4 | - | 74 |
| Utah | 22 | 18 | - | 24 | 29 | 2 | - | 1 | 7 |
| Nev. | 111 | 81 | - | 29 | 33 | 2 | 1 | - | 13 |
| PACIFIC | 6,529 | 4,577 | - | 3,580 | 3,313 | 12 | 98 | 3 | 377 |
| Wash. | 120 | 146 | - | 264 | 173 | 4 | 7 | - | - |
| Oreg. | 258 | 88 | - | 100 | 109 | 5 | 2 | 1 | - |
| Calif. | 6,135 | 4,362 | - | 3,035 | 2,837 | 2 | 83 | 2 | 374 |
| Alaska | 4 | - | - | 58 | 40 | 1 | - | - | 3 |
| Hawaii | 12 | 31 | - | 183 | 148 | - | 7 | - | - |
| Guam | 2 | 1 | - | 28 | 34 | - | - | - | - |
| P.R. | 774 | 738 | - | 286 | 288 | - | - | - | 80 |
| V.I. | 9 | 1 | - | 2 | 1 | - | - | - | - |
| Pac. Trust Terr. | 190 | 218 | - | 141 | 62 | - | 19 | - | - |
| Amer. Samoa | 2 | - | - | 1 | 5 | - | 1 | - | - |

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending October 31, 1987 (43rd Week)

| Reporting Area | All Causes, By Age (Years) | | | | | | | P&I** | Total | Reporting Area | All Causes, By Age (Years) | | | | | | | P&I** | Total |
|---------------------|----------------------------|-------|-------|-------|------|----|-----|-------|-------|-----------------------|----------------------------|-------|-------|-------|------|-----|-----|-------|-------|
| | All Ages | >85 | 45-64 | 25-44 | 1-24 | <1 | | | | | All Ages | >85 | 45-64 | 25-44 | 1-24 | <1 | | | |
| NEW ENGLAND | 624 | 416 | 122 | 50 | 15 | 21 | 41 | | | S. ATLANTIC | 1,247 | 755 | 289 | 137 | 39 | 47 | 42 | | |
| Boston, Mass. | 177 | 89 | 44 | 17 | 4 | 13 | 20 | | | Atlanta, Ga. | 141 | 79 | 28 | 29 | 2 | 3 | 7 | | |
| Bridgeport, Conn. | 40 | 31 | 14 | 3 | 1 | - | 3 | | | Baltimore, Md. | 175 | 98 | 49 | 17 | 5 | 6 | 2 | | |
| Cambridge, Mass. | 25 | 23 | 1 | - | 1 | - | 1 | | | Charlotte, N.C. | 77 | 49 | 16 | 7 | 1 | 4 | 3 | | |
| Fall River, Mass. | 32 | 23 | 8 | - | 1 | - | 1 | | | Jacksonville, Fla. | 93 | 67 | 13 | 8 | 2 | 3 | 1 | | |
| Hartford, Conn. | 64 | 42 | 8 | 8 | 2 | 4 | 1 | | | Miami, Fla. | 154 | 79 | 40 | 22 | 7 | 6 | 1 | | |
| Lowell, Mass. | 24 | 20 | 2 | - | 2 | - | 1 | | | Norfolk, Va. | 39 | 21 | 11 | 4 | 2 | 1 | 1 | | |
| Lynn, Mass. | 18 | 14 | 3 | 1 | - | - | 3 | | | Richmond, Va. | 91 | 57 | 22 | 6 | 6 | - | 8 | | |
| New Bedford, Mass. | 29 | 23 | 3 | 2 | 1 | - | 1 | | | Savannah, Ga. | 48 | 34 | 10 | 1 | 1 | 2 | 4 | | |
| New Haven, Conn. | 16 | 11 | 3 | 2 | - | - | 1 | | | St. Petersburg, Fla. | 81 | 57 | 11 | 4 | 2 | 7 | 2 | | |
| Providence, R.I. | 80 | 38 | 10 | 7 | - | 4 | 3 | | | Tempe, Fla. | 69 | 44 | 15 | 8 | 1 | 4 | 3 | | |
| Somerville, Mass. | 8 | 4 | 2 | 2 | - | - | - | | | Washington, D.C. | 253 | 153 | 52 | 29 | 8 | 11 | 9 | | |
| Springfield, Mass. | 48 | 34 | 9 | 4 | 1 | - | 6 | | | Wilmington, Del. | 28 | 17 | 2 | 5 | 2 | - | 1 | | |
| Waterbury, Conn. | 19 | 14 | 5 | - | - | - | - | | | E.S. CENTRAL | 813 | 536 | 182 | 45 | 26 | 24 | 68 | | |
| Worcester, Mass. | 58 | 40 | 10 | 4 | 2 | - | - | | | Birmingham, Ala. | 110 | 66 | 29 | 9 | 3 | 1 | 1 | | |
| MID. ATLANTIC | 3,008 | 1,969 | 592 | 275 | 63 | 79 | 150 | | | Chattanooga, Tenn. | 64 | 42 | 9 | 1 | - | 2 | 5 | | |
| Albany, N.Y. | 45 | 35 | 8 | 1 | - | 1 | - | | | Knoxville, Tenn. | 86 | 53 | 20 | 8 | 2 | 3 | 11 | | |
| Allentown, Pa. | 19 | 12 | 3 | 3 | 1 | - | - | | | Louisville, Ky. | 136 | 92 | 28 | 6 | 5 | 5 | 13 | | |
| Buffalo, N.Y. | 106 | 78 | 19 | 6 | 1 | - | 8 | | | Memphis, Tenn. | 173 | 109 | 48 | 6 | 6 | 4 | 23 | | |
| Camden, N.J. | 41 | 23 | 11 | 4 | 2 | 1 | - | | | Mobile, Ala. | 56 | 39 | 9 | 4 | 3 | 1 | 3 | | |
| Elizabeth, N.J. | 18 | 13 | 2 | 2 | 1 | - | - | | | Montgomery, Ala. | 81 | 57 | 11 | 4 | 3 | 4 | 4 | | |
| Erie, Pa. | 47 | 40 | 6 | 1 | - | - | 4 | | | Nashville, Tenn. | 158 | 91 | 31 | 8 | 4 | 4 | 8 | | |
| Jersey City, N.J. | 53 | 37 | 8 | 6 | 1 | 1 | 2 | | | W.S. CENTRAL | 1,341 | 806 | 304 | 131 | 53 | 48 | 52 | | |
| N.Y. City, N.Y. | 1,889 | 1,085 | 343 | 179 | 34 | 48 | 88 | | | Austin, Tex. | 53 | 35 | 13 | 4 | 1 | - | 4 | | |
| Newark, N.J. | 70 | 34 | 16 | 17 | 1 | 2 | 3 | | | Baton Rouge, La. | 18 | 12 | 3 | 2 | - | 1 | 1 | | |
| Peterborough, N.J. | 20 | 10 | 4 | 2 | 2 | 2 | - | | | Corpus Christi, Tex. | 57 | 39 | 8 | 6 | 2 | 2 | 2 | | |
| Philadelphia, Pa. | 398 | 278 | 79 | 30 | 8 | 6 | 5 | | | Dallas, Tex. | 217 | 121 | 44 | 23 | 16 | 13 | 6 | | |
| Pittsburgh, Pa. | 96 | 64 | 18 | 5 | 4 | 8 | 5 | | | El Paso, Tex. | 66 | 45 | 13 | 2 | 1 | 4 | - | | |
| Reading, Pa. | 34 | 31 | - | - | 3 | - | 5 | | | Fort Worth, Tex. | 100 | 60 | 21 | 11 | 4 | 4 | 3 | | |
| Rochester, N.Y. | 128 | 80 | 22 | 6 | 3 | 5 | 11 | | | Houston, Tex. | 308 | 176 | 74 | 34 | 13 | 11 | 7 | | |
| Schenectady, N.Y. | 28 | 23 | 4 | 1 | - | - | - | | | Little Rock, Ark. | 63 | 38 | 18 | 5 | - | 2 | 4 | | |
| Scranton, Pa. | 30 | 25 | 4 | 1 | - | - | - | | | New Orleans, La. | 135 | 80 | 22 | 18 | 4 | 1 | - | | |
| Syracuse, N.Y. | 90 | 66 | 18 | 3 | 1 | 2 | 3 | | | San Antonio, Tex. | 193 | 102 | 60 | 17 | 8 | 6 | 9 | | |
| Trenton, N.J. | 47 | 21 | 17 | 6 | 1 | 2 | 3 | | | Shreveport, La. | 39 | 25 | 9 | 4 | - | 1 | 7 | | |
| Utica, N.Y. | 21 | 14 | 6 | 1 | - | - | 2 | | | Tulsa, Okla. | 93 | 62 | 19 | 5 | 4 | 3 | 11 | | |
| Yonkers, N.Y. | 32 | 27 | 4 | 1 | - | - | 2 | | | MOUNTAIN | 690 | 432 | 171 | 47 | 26 | 13 | 42 | | |
| E.N. CENTRAL | 2,388 | 1,564 | 500 | 165 | 83 | 74 | 95 | | | Albuquerque, N. Mex. | 89 | 53 | 23 | 5 | 4 | 2 | 6 | | |
| Akron, Ohio | 54 | 41 | 10 | 1 | - | 2 | - | | | Colo. Springs, Colo. | 35 | 21 | 8 | 4 | 1 | 1 | 3 | | |
| Canton, Ohio | 32 | 22 | 8 | 2 | - | - | - | | | Denver, Colo. | 118 | 67 | 35 | 8 | 3 | 5 | 4 | | |
| Chicago, Ill. | 564 | 362 | 125 | 45 | 10 | 22 | 16 | | | Las Vegas, Nev. | 80 | 47 | 26 | 6 | - | 1 | 5 | | |
| Cincinnati, Ohio | 129 | 76 | 36 | 8 | 4 | 5 | 10 | | | Ogden, Utah | 28 | 19 | 4 | 3 | 1 | 1 | 6 | | |
| Cleveland, Ohio | 182 | 120 | 41 | 9 | 6 | 6 | 3 | | | Phoenix, Ariz. | 168 | 110 | 41 | 6 | 10 | 1 | 9 | | |
| Columbus, Ohio | 131 | 84 | 23 | 14 | 1 | 7 | - | | | Pueblo, Colo. | 22 | 18 | 3 | 1 | - | - | 1 | | |
| Dallas, Ohio | 101 | 68 | 21 | 6 | 4 | 2 | 11 | | | Salt Lake City, Utah | 53 | 37 | 5 | 6 | 4 | 1 | 3 | | |
| Detroit, Mich. | 258 | 180 | 59 | 23 | 7 | 7 | 7 | | | Tucson, Ariz. | 97 | 60 | 26 | 7 | 3 | 1 | 5 | | |
| Evansville, Ind. | 38 | 28 | 7 | 1 | 1 | 1 | 1 | | | PACIFIC | 1,981 | 1,342 | 352 | 174 | 47 | 81 | 114 | | |
| Fort Wayne, Ind. | 61 | 40 | 12 | 6 | 3 | - | 3 | | | Berkeley, Calif. | 18 | 14 | 4 | - | - | - | 2 | | |
| Gary, Ind. | 17 | 10 | 4 | 3 | - | - | - | | | Freemont, Calif. | 93 | 68 | 10 | 6 | 4 | 3 | 11 | | |
| Grand Rapids, Mich. | 72 | 58 | 9 | 2 | 2 | 1 | 9 | | | Glendale, Calif. | 22 | 17 | 3 | 1 | - | 1 | - | | |
| Indianapolis, Ind. | 203 | 124 | 46 | 15 | 9 | 9 | 2 | | | Honolulu, Hawaii | 63 | 36 | 16 | 5 | 4 | 2 | 7 | | |
| Madison, Wis. | 35 | 23 | 3 | 3 | 4 | 2 | 2 | | | Long Beach, Calif. | 104 | 64 | 24 | 4 | 1 | 11 | 11 | | |
| Milwaukee, Wis. | 132 | 89 | 29 | 9 | 2 | 3 | 9 | | | Los Angeles, Calif. | 580 | 406 | 90 | 64 | 13 | 12 | 20 | | |
| Peoria, Ill. | 63 | 45 | 9 | 5 | 1 | 3 | 6 | | | Oakland, Calif. | 53 | 29 | 11 | 7 | 5 | 1 | 4 | | |
| Rockford, Ill. | 44 | 25 | 10 | 4 | 3 | 1 | 4 | | | Pasadena, Calif. | 27 | 21 | 4 | 1 | - | 1 | 3 | | |
| South Bend, Ind. | 55 | 45 | 7 | 2 | - | - | 1 | | | Portland, Oreg. | 125 | 85 | 25 | 6 | 4 | 5 | 10 | | |
| Toledo, Ohio | 103 | 71 | 24 | - | 5 | 3 | 5 | | | Sacramento, Calif. | 128 | 89 | 23 | 8 | 2 | 6 | 9 | | |
| Youngstown, Ohio | 96 | 72 | 17 | 7 | - | - | 1 | | | San Diego, Calif. | 134 | 79 | 28 | 15 | 6 | 6 | 11 | | |
| W.N. CENTRAL | 772 | 585 | 143 | 32 | 16 | 16 | 38 | | | San Francisco, Calif. | 179 | 100 | 39 | 32 | 3 | 5 | 4 | | |
| Des Moines, Iowa | 66 | 55 | 7 | 3 | - | 1 | 2 | | | San Jose, Calif. | 182 | 128 | 39 | 11 | - | 4 | 13 | | |
| Duluth, Minn. | 20 | 13 | 5 | - | - | 2 | - | | | Seattle, Wash. | 147 | 110 | 22 | 10 | 2 | 3 | 6 | | |
| Kansas City, Kans. | 40 | 25 | 11 | - | 3 | 1 | - | | | Spokane, Wash. | 89 | 55 | 8 | 2 | 3 | 1 | 7 | | |
| Kansas City, Mo. | 113 | 75 | 26 | 6 | 4 | 2 | 5 | | | Tacoma, Wash. | 48 | 40 | 6 | 2 | - | - | - | | |
| Lincoln, Neb. | 37 | 32 | 3 | 1 | - | 1 | 3 | | | TOTAL | 12,844 ^{††} | 8,414 | 2,635 | 1,056 | 348 | 383 | 642 | | |
| Minneapolis, Minn. | 98 | 71 | 18 | 6 | 1 | 3 | 6 | | | | | | | | | | | | |
| Omaha, Neb. | 97 | 74 | 17 | 5 | 1 | - | 5 | | | | | | | | | | | | |
| St. Louis, Mo. | 136 | 86 | 34 | 7 | 4 | 5 | 10 | | | | | | | | | | | | |
| St. Paul, Minn. | 86 | 71 | 10 | 3 | 2 | 1 | 3 | | | | | | | | | | | | |
| Wichita, Kans. | 79 | 63 | 12 | 2 | 1 | 1 | 4 | | | | | | | | | | | | |

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

**Pneumonia and influenza.

†Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Total includes unknown ages.

‡Data not available. Figures are estimates based on average of past 4 weeks.

Work-Related Illness — Continued

considerably for skin disorders (Table 1). Similar nationwide changes have been reported by the Bureau of Labor Statistics (5).

Reported by: E Schwartz, MD, MPH, State Epidemiologist, and staff, New Hampshire Dept of Health and Welfare. Office of the Director, National Institute for Occupational Safety and Health, CDC.

Editorial Note: Surveillance of occupationally related diseases provides critical data necessary for targeting and evaluating prevention and control activities. State-based surveillance often relies on the analysis of data derived from multiple sources, including physician reports, death certificates, hospital discharge records, and workers' compensation claims. Because each data set has different inherent limitations, many states use complementary sources of data to estimate the occurrence of occupational disease more accurately.

Workers' compensation systems vary widely among states in eligibility but commonly are administered by state labor departments to provide no-fault insurance for work-related injuries (6). The New Hampshire law covers occupational diseases as well as injuries and applies to all workers except federal employees, longshoremen, railroad workers, and agricultural workers. Members of certain other exempted groups, such as the self-employed, may participate on a voluntary basis (7). Despite an estimated 8 million claims filed annually in the United States, fewer than 20% of workers who thought they had been severely disabled because of their jobs have ever applied for workers' compensation (8,9). In New Hampshire, as in most states, nearly all claims involve work-related traumatic injuries (10). This pattern occurs partly because the causal association between workplace exposure and a resulting illness is often obscured by 1) the often multicausal nature of many chronic diseases, 2) the generally long latent period between first exposure to workplace agents and the time a chronic condition becomes clinically apparent, and 3) physicians' failure to recognize and diagnose occupational disease. Since workers' compensation claims contain allegations of injury, illness, or disease that may be subject to dispute, cases identified through compensation claims may be considered suspected rather than confirmed. Even so, as with infectious disease, suspected cases can be valuable for surveillance purposes.

Despite these limitations in workers' compensation claims, the New Hampshire data suggest that ongoing analysis of such data may be a useful method for surveillance of trends in occupational illness, as demonstrated by the shift in the distribution of claims from 1976 to 1986. Some of this shift may indicate a true change in the incidence of these conditions, but the magnitude of the increases in claims for respiratory and repetitive trauma disorders suggests that much of the shift can be attributed to improved physician recognition and reporting of these conditions as

TABLE 1. Distribution of workers' compensation claims, by diagnosis — New Hampshire, 1976 compared with 1986

| Diagnosis | 1976 | | 1986 | |
|--|------|--------|-------|-------|
| | No. | % | No. | % |
| Skin disorders | 441 | 51.2 | 288 | 26.1 |
| Respiratory disorders | 75 | 8.7 | 386 | 35.0 |
| Carpal tunnel, repetitive trauma disorders | 111 | 12.9 | 226 | 20.5 |
| Others | 235 | 27.3 | 203 | 18.4 |
| Total | 862 | ~100.0 | 1,103 | 100.0 |

Work-Related Illness — Continued

work-related. In addition, because 10% of disease claims in New Hampshire alleged exposure to an infectious agent, analysis of these claims could enhance surveillance of occupationally related communicable disease as well. Furthermore, epidemiologic surveillance of workers' compensation claims offers an opportunity to identify companies and industries with unusual patterns of work-related illness or injury. Such identification can provide a basis for targeting industrial hygiene evaluations and for more thorough epidemiologic investigations that will lead to interventions. In addition to the use of workers' compensation records for surveillance, the National Institute for Occupational Safety and Health continues to recommend that states develop primary intervention and prevention activities based also upon targeted provider-based case reporting and analyses of other data sources.

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*Perspectives in Disease Prevention and Health Promotion***Status of the 1990 Objectives on Misuse of Alcohol and Drugs**

Nineteen of the 226 health objectives for the nation published in 1980 (1,2) concern alcohol and drug misuse. As part of an ongoing series of Public Health Service progress reviews, the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) and representatives of collaborating agencies recently reported on the status of the 13 high-priority objectives in this area.

Progress toward achieving these objectives is encouraging, although results of the 1986 survey of high school seniors (3) revealed some areas of concern. Trends in students' self-reported use of marijuana, amphetamines, heroin, and sedatives have continued downward (Table 1). Despite this generally positive trend, however, special efforts are needed to reduce cocaine use, alcohol consumption, cigarette smoking, and binge drinking among students. In addition, continued attention to alcohol and drug problems among adults is necessary to further reduce the incidence of fetal alcohol syndrome (FAS), prescription drug abuse, and cirrhosis mortality.

Objectives — Continued

ADAMHA reviewers identified three areas that need improvement if the 1990 objectives on alcohol and drug misuse are to be met: 1) the conversion of attitudes and beliefs into behavioral changes, 2) the improvement and expansion of surveillance systems and epidemiologic studies to identify populations at greatest risk, and 3) the ability to identify and monitor the introduction of new substances such as crack and controlled substance analogues and to determine their consequences quickly.

At present, five of the 13 objectives are likely to be achieved by 1990. Three of the remaining eight are progressing, but may not be achieved by 1990. National data are inadequate to predict the outcome for two of the objectives, and three are unlikely to be met. All 13 objectives are presented below, along with a status report:

Reduce annual fatalities from alcohol-related motor vehicle crashes to less than 9.5 per 100,000 U.S. population. In 1977, there were 11.5 such fatalities per 100,000 population. By 1984 and 1985, there were 9.5 per 100,000. This objective has been met. ADAMHA continues to work closely with the National Highway Traffic Safety Administration to increase national awareness of risks associated with driving after drinking. The midcourse review issued by the Office of Disease Prevention and Health Promotion (4) also recommends intervention programs for impaired drivers who could become repeat offenders.

Reduce the annual cirrhosis mortality rate to 12 per 100,000 population. In 1978, the cirrhosis mortality rate was 13.5 per 100,000 population. By 1984, the rate had declined to 11.6 per 100,000. This objective has been met, largely because of the recent decline in per capita consumption of alcoholic beverages. However, cirrhosis

TABLE 1. Trends in annual prevalence of drug use among high school seniors, by drug type — National High School Senior Survey conducted by the National Institute on Drug Abuse, 1975, 1980, 1985, 1986

| Drug Type | Student Drug Use* (%) | | | | 1985-1986 Rate Change |
|------------------------|-----------------------|---------------|---------------|---------------|-----------------------|
| | Class of 1975 | Class of 1980 | Class of 1985 | Class of 1986 | |
| Marijuana/hashish | 40.0 | 48.8 | 40.6 | 38.8 | -1.8 |
| Inhalants | NA | 4.6 | 5.7 | 6.1 | +0.4 |
| Inhalants adjusted | NA | 7.9 | 7.5 | 8.9 | +1.4 [†] |
| Amyl & butyl nitrites | NA | 5.7 | 4.0 | 4.7 | +0.7 |
| Hallucinogens | 11.2 | 9.3 | 6.3 | 6.0 | -0.3 |
| Hallucinogens adjusted | NA | 10.4 | 7.6 | 7.6 | 0.0 |
| LSD | 7.2 | 6.5 | 4.4 | 4.5 | +0.1 |
| PCP | NA | 4.4 | 2.9 | 2.4 | -0.5 |
| Cocaine | 5.6 | 12.3 | 13.1 | 12.7 | -0.4 |
| Heroin | 1.0 | 0.5 | 0.6 | 0.5 | -0.1 |
| Other opiates | 5.7 | 6.3 | 5.9 | 5.2 | -0.7 [†] |
| Stimulants | 16.2 | 20.8 | NA | NA | NA |
| Stimulants adjusted | NA | NA | 15.8 | 13.4 | -2.4 [‡] |
| Sedatives | 11.7 | 10.3 | 5.8 | 5.2 | -0.6 |
| Barbiturates | 10.7 | 6.8 | 4.6 | 4.2 | -0.4 |
| Methaqualone | 5.1 | 7.2 | 2.8 | 2.1 | -0.7 [†] |
| Tranquilizers | 10.6 | 8.7 | 6.1 | 5.8 | -0.3 |
| Alcohol | 84.8 | 87.9 | 85.6 | 84.5 | -1.1 |
| Approx N = | (9,400) | (15,900) | (16,000) | (15,200) | |

*Reports drug use for previous 12-month period; NA indicates data not available.

[†]Level of significance of difference between 1985 and 1986 is 0.05.

[‡]Level of significance of difference between 1985 and 1986 is 0.001.

Objectives — Continued

rates for races other than white are substantially above those for whites, and it is unlikely that these rates will drop to 12 per 100,000 by 1990.

Per capita alcohol consumption should not exceed current levels. In 1978, absolute alcohol was consumed at 2.71 gallons per person by those 14 years of age or older. By 1984, absolute alcohol was being consumed by this age group at 2.65 gallons per person. This objective is currently being achieved for a variety of reasons, including changing lifestyles and heightened awareness of the health- and safety-related risks of alcohol consumption.

More than 90% of women of childbearing age should be aware of risks associated with drinking during pregnancy, in particular, the fetal alcohol syndrome. In 1979, 73.0% of such women were aware of these risks. In 1985, 88.0% were aware. Achievement is likely by 1990. ADAMHA has launched a public and professional education campaign, beginning with FAS Awareness Week.

Proportion of workers in major firms providing an employee assistance program (EAP) for substance abuse should exceed 70%. In 1976, 50.0% of a sample of Fortune 500 firms provided such EAPs. By 1979, the number of firms offering EAPs increased to 57%. According to knowledgeable professionals, most Fortune 500 firms are realizing the benefits of EAPs and worksite wellness programs.

The proportion of 12- to 17-year-olds who abstain from alcohol or other drug use should not fall below 1977 levels. In 1977, 69.0% of persons in this age group reported abstaining from alcohol; 83.9% reported abstaining from marijuana; and 99.9%, from heroin. In 1982, 73.1% reported abstaining from alcohol; 88.5%, from marijuana; and 99.5%, from heroin. In 1985, 69.0% reported abstaining from alcohol. There has been progress in discouraging marijuana use; however, stronger public education and prevention efforts are needed to improve the rates of abstinence from alcohol.

The proportion of 18- to 25-year-olds reporting frequent use of nonalcoholic drugs should not exceed the 1977 level. In 1977, 18.7% of persons in this age group used marijuana frequently; less than 1.0% used other drugs frequently. In 1985, 10.5% reported using marijuana frequently, and 1.8% reported frequent use of other drugs. The increase in the proportion of those using other drugs probably reflects the concentration of cocaine users in this age group. The National Institute on Drug Abuse has initiated a program designed to prevent the progression from early drug use to cocaine use.

The proportion of 12- to 17-year-olds reporting frequent use of nonalcoholic drugs should not exceed the 1977 level. In 1977, 9.0% of persons in this age group reported using marijuana frequently; less than 1.0% reported using other drugs frequently. In 1985, 4.4% reported using marijuana frequently, and 1.2% reported frequent use of other drugs. Although progress has been made in reducing marijuana use, introduction of other substances such as crack and controlled substance analogues makes it difficult to assure achievement of this objective. Federal initiatives and campaigns are under way to improve public awareness of the dangers of any illicit drug use.

More than 75% of adults should be aware of the added risk of head and neck cancers associated with excessive alcohol use. Baseline data were not available; however, in 1985, 48.0% of adults were aware of the added risk of cancers associated with excessive alcohol use. To date, few public health campaigns have included explicit messages related to alcohol consumption and cancer risk. Achievement of this objective by 1990 is unlikely.

Reduce the incidence of fetal alcohol syndrome (FAS) by 25%. In 1977, the estimated incidence of FAS was 1 per 2,000 births. Currently, no national surveillance

Objectives — Continued

system tracks this objective. With an International Classification of Diseases Code now available for FAS and with the increasing awareness of physicians, the apparent incidence of FAS may increase, even though the actual number of cases may decrease. Awareness efforts noted in the midcourse review include the "Healthy Mothers, Healthy Babies Coalition."

Reduce drug-related mortality to 2 per 100,000 per year. In 1978, there were 2.7 such deaths per 100,000. By 1984, drugs other than alcohol were responsible for 3.3 deaths per 100,000. Current data are too inclusive to meaningfully reflect the results of education and intervention efforts. However, data from the Drug Abuse Warning Network, which is based on hospital emergency room and medical examiner reports from 26 major U.S. cities, suggest that prevention efforts should focus on cocaine use and on the use of alcohol in combination with other drugs.

The proportion of 14- to 17-year-olds reporting acute drinking-related problems in the past year should be reduced to below 17%. In 1978, an estimated 19.0% of adolescents reported such problems. In 1985 and 1986, 37.0% of high school seniors reported consuming five or more drinks at a time at least once in the 2 weeks before the survey. Widespread acceptance of alcohol use and related availability restricts substantial progress on this objective, and achievement is unlikely.

Eighty percent of high school seniors should say they perceive great risk associated with frequent, regular cigarette smoking; marijuana use; barbiturate use; or alcohol intoxication. In 1979, 63.0% of high school seniors perceived great risk in smoking one to two packs of cigarettes daily; 42.0% perceived great risk in daily use of marijuana; 71.6%, in daily barbiturate use; and 35.0%, in alcohol intoxication. In 1986, 66.0% of high school seniors perceived great risk in smoking one or two packs of cigarettes daily; 71.3% perceived great risk in daily use of marijuana; 67.2%, in daily barbiturate use; and 39.1%, in alcohol intoxication. Achievement of this objective by 1990 is unlikely. To increase awareness of the risks associated with alcohol intoxication, ADAMHA has initiated the "Be Smart, Don't Start—Just Say No" campaign aimed at 8- to 12-year-olds.

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*Notice to Readers***Delay in Printing of MMWR**

Because of the Veterans' Day holiday, MMWR, Volume 36, Number 44, dated November 13, 1987, will be printed on November 12 instead of November 11. Distribution will be delayed one day.

FIGURE 1. Reported measles cases — United States, Weeks 39-42, 1987



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The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday. The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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